

## CLAIMS

1. A process for producing propylene oxide, which comprises the following steps:

5       oxidation step: a step of obtaining cumene hydroperoxide by oxidizing cumene;

          epoxidation step: a step of obtaining propylene oxide and cumyl alcohol by reacting cumene hydroperoxide obtained in the oxidation step with propylene in the presence of an epoxidation catalyst; and  
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          conversion step: a step of obtaining cumene by subjecting cumyl alcohol obtained in the epoxidation step to hydrogenation-containing reaction and recycling the cumene to the oxidation step,

15       wherein a concentration of 1,2-epoxy-2-phenylpropane contained in a reaction mixture after the oxidation step, is 1 % by weight or less.

2. The process according to claim 1, wherein the conversion step comprises the following steps:

20       dehydration step: a step of obtaining  $\alpha$ -methylstyrene by dehydrating cumyl alcohol obtained in the epoxidation step in the presence of a dehydration catalyst; and

          hydrogenation step: a step of obtaining cumene by hydrogenating  $\alpha$ -methylstyrene to obtain cumene, and  
25       recycling the cumene to the oxidation step.

3. The process according to claim 1, wherein the conversion step comprises the following step:

          hydrogenolysis step; a step of obtaining cumene by subjecting cumyl alcohol obtained in the epoxidation step to

hydrogenolysis in the presence of a hydrogenolysis catalyst,  
and recycling the cumene to the oxidation step as the raw  
material.